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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/780,438C

DATE: 05/08/2003
TIME: 14:42:57

Input Set : A:\EP.txt
Output Set: N:\CRF4\05082003\I780438C.raw

3 <110> APPLICANT: Qi, Xiaoyang
 5 <120> TITLE OF INVENTION: Fusogenic Properties of Saposin C and Related Proteins and
 Polypeptides
 6 for Application to Transmembrane Drug Delivery Systems
 8 <130> FILE REFERENCE: 10872/0474352
 10 <140> CURRENT APPLICATION NUMBER: US 09/780,438C
 11 <141> CURRENT FILING DATE: 2000-02-11
 13 <150> PRIOR APPLICATION NUMBER: US 60/181,754
 14 <151> PRIOR FILING DATE: 2000-02-11
 16 <160> NUMBER OF SEQ ID NOS: 6
 18 <170> SOFTWARE: PatentIn version 3.1
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 40
 22 <212> TYPE: PRT
 23 <213> ORGANISM: Homo sapiens
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 28 1 5 10 15
 31 Lys Leu Ile Asp Asn Asn Lys Thr Glu Lys Glu Ile Leu Asp Ala Phe
 32 20 25 30
 35 Asp Lys Met Cys Ser Lys Leu Pro
 36 35 40
 39 <210> SEQ ID NO: 2
 40 <211> LENGTH: 38
 41 <212> TYPE: PRT
 42 <213> ORGANISM: Homo sapiens
 44 <400> SEQUENCE: 2
 46 Val Tyr Cys Glu Val Cys Glu Phe Leu Val Lys Glu Val Thr Lys Leu
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 50 Ile Asp Asn Asn Lys Thr Glu Lys Glu Ile Leu Asp Ala Phe Asp Lys
 51 20 25 30
 54 Met Cys Ser Lys Leu Pro
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 58 <210> SEQ ID NO: 3
 59 <211> LENGTH: 38
 60 <212> TYPE: PRT
 61 <213> ORGANISM: Homo sapiens
 63 <220> FEATURE:
 64 <221> NAME/KEY: MISC_FEATURE
 65 <222> LOCATION: (1)..(1)
 66 <223> OTHER INFORMATION: Where the amino acid located at 1 is a hydrophobic amino
 acids, i
 67 ncluding Val, Leu, Ile, Met, Pro, Phe, and Ala
 70 <220> FEATURE:

71 <221> NAME/KEY: MISC_FEATURE

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72 <222> LOCATION: (2)..(2)
 73 <223> OTHER INFORMATION: Where the amino acid located at 2 is an uncharged polar amino
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 74 d, including Thr, Ser, Tyr, Gly, Gln, and Asn
 77 <220> FEATURE:
 78 <221> NAME/KEY: MISC_FEATURE
 79 <222> LOCATION: (5)..(5)
 80 <223> OTHER INFORMATION: Where the amino acid located at 5 is a hydrophobic amino
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 81 cluding Val, Leu, Ile, Met, Pro, Phe, and Ala
 84 <220> FEATURE:
 85 <221> NAME/KEY: MISC_FEATURE
 86 <222> LOCATION: (8)..(10)
 87 <223> OTHER INFORMATION: Where the amino acids located at 8-10 are hydrophobic amino
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 88 , including Val, Leu, Ile, Met, Pro, Phe, and Ala
 91 <220> FEATURE:
 92 <221> NAME/KEY: MISC_FEATURE
 93 <222> LOCATION: (13)..(13)
 94 <223> OTHER INFORMATION: Where the amino acid located at 13 is a hydrophobic amino
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 95 ncluding Val, Leu, Ile, Met, Pro, Phe, and Ala
 98 <220> FEATURE:
 99 <221> NAME/KEY: MISC_FEATURE
 100 <222> LOCATION: (14)..(14)
 101 <223> OTHER INFORMATION: Where the amino acid located at 14 is an uncharged polar
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 102 id, including Thr, Ser, Tyr, Gly, Gln, and Asn
 105 <220> FEATURE:
 106 <221> NAME/KEY: MISC_FEATURE
 107 <222> LOCATION: (16)..(17)
 108 <223> OTHER INFORMATION: Where the amino acids located at 16 and 17 are hydrophobic
 amino o
 109 acids, including Val, Leu, Ile, Met, Pro, Phe, and Ala
 112 <220> FEATURE:
 113 <221> NAME/KEY: MISC_FEATURE
 114 <222> LOCATION: (22)..(22)
 115 <223> OTHER INFORMATION: Where the amino acid located at 22 is an uncharged polar
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 116 id, including Thr, Ser, Tyr, Gly, Gln, and Asn
 119 <220> FEATURE:
 120 <221> NAME/KEY: MISC_FEATURE
 121 <222> LOCATION: (26)..(27)
 122 <223> OTHER INFORMATION: Where the amino acids located at 26 and 27 are hydrophobic
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 123 acids, including Val, Leu, Ile, Met, Pro, Phe, and Ala
 126 <220> FEATURE:
 127 <221> NAME/KEY: MISC_FEATURE
 128 <222> LOCATION: (29)..(30)
 129 <223> OTHER INFORMATION: Where the amino acids located at 29 and 30 are hydrophobic
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 130 acids, including Val, Leu, Ile, Met, Pro, Phe, and Ala
 133 <220> FEATURE:

134 <221> NAME/KEY: MISC_FEATURE
135 <222> LOCATION: (33)..(33)
136 <223> OTHER INFORMATION: Where the amino acid located at 33 is a hydrophobic amino acid, i
137 ncluding Val, Leu, Ile, Met, Pro, Phe, and Ala
140 <220> FEATURE:

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Input Set : A:\EP.txt
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141 <221> NAME/KEY: MISC_FEATURE
142 <222> LOCATION: (35)..(35)
143 <223> OTHER INFORMATION: Where the amino acid located at 35 is an uncharged polar
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144 id, including Thr, Ser, Tyr, Gly, Gln, and Asn
147 <220> FEATURE:
148 <221> NAME/KEY: MISC_FEATURE
149 <222> LOCATION: (37)..(38)
150 <223> OTHER INFORMATION: Where the amino acids located at 37 and 38 are hydrophobic
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151 acids, including Val, Leu, Ile, Met, Pro, Phe, and Ala
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W--> 156 Xaa Xaa Cys Glu Xaa Cys Glu Xaa Xaa Xaa Lys Glu Xaa Xaa Xaa Lys Xaa
157 1 5 10 15
160 Xaa Asp Asn Asn Lys Xaa Glu Lys Glu Xaa Xaa Asp Xaa Xaa Asp Lys
161 20 25 30
164 Xaa Cys Xaa Lys Xaa Xaa
165 35
168 <210> SEQ ID NO: 4
169 <211> LENGTH: 39
170 <212> TYPE: PRT
171 <213> ORGANISM: Homo sapiens
173 <220> FEATURE:
174 <221> NAME/KEY: MISC_FEATURE
175 <222> LOCATION: (1)..(2)
176 <223> OTHER INFORMATION: Where the amino acids located at 1 and 2 are hydrophobic
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177 ids, including Val, Leu, Ile, Met, Pro, Phe, and Ala
180 <220> FEATURE:
181 <221> NAME/KEY: MISC_FEATURE
182 <222> LOCATION: (3)..(3)
183 <223> OTHER INFORMATION: Where the amino acid located at 3 is an uncharged polar
amino aci
184 d, including Thr, Ser, Tyr, Gly, Gln, and Asn
187 <220> FEATURE:
188 <221> NAME/KEY: MISC_FEATURE
189 <222> LOCATION: (6)..(6)
190 <223> OTHER INFORMATION: Where the amino acid located at 6 is a hydrophobic amino
acid, in
191 cluding Val, Leu, Ile, Met, Pro, Phe, and Ala
194 <220> FEATURE:
195 <221> NAME/KEY: MISC_FEATURE
196 <222> LOCATION: (9)..(11)
197 <223> OTHER INFORMATION: Where the amino acids located at 9-11 are hydrophobic amino
acids
198 , including Val, Leu, Ile, Met, Pro, Phe, and Ala
201 <220> FEATURE:
202 <221> NAME/KEY: MISC_FEATURE
203 <222> LOCATION: (14)..(14)
204 <223> OTHER INFORMATION: Where the amino acid located at 14 is a hydrophobic amino
acid, i
205 ncluding Val, Leu, Ile, Met, Pro, Phe, and Ala
208 <220> FEATURE:

209 <221> NAME/KEY: MISC_FEATURE
210 <222> LOCATION: (15)..(15)
211 <223> OTHER INFORMATION: Where the amino acid located at 15 is an uncharged polar
amino ac

RAW SEQUENCE LISTING

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Input Set : A:\EP.txt

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212 id, including Thr, Ser, Tyr, Gly, Gln, and Asn

215 <220> FEATURE:

216 <221> NAME/KEY: MISC_FEATURE

217 <222> LOCATION: (17)..(18)

218 <223> OTHER INFORMATION: Where the amino acids located at 17 and 18 are hydrophobic
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219 acids, including Val, Leu, Ile, Met, Pro, Phe, and Ala

222 <220> FEATURE:

223 <221> NAME/KEY: MISC_FEATURE

224 <222> LOCATION: (23)..(23)

225 <223> OTHER INFORMATION: Where the amino acid located 23 is an uncharged polar amino
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226 including Thr, Ser, Tyr, Gly, Gln, and Asn

229 <220> FEATURE:

230 <221> NAME/KEY: MISC_FEATURE

231 <222> LOCATION: (27)..(28)

232 <223> OTHER INFORMATION: Where the amino acids located at 27 and 28 are hydrophobic
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233 acids, including Val, Leu, Ile, Met, Pro, Phe, and Ala

236 <220> FEATURE:

237 <221> NAME/KEY: MISC_FEATURE

238 <222> LOCATION: (30)..(31)

239 <223> OTHER INFORMATION: Where the amino acids located at 30 and 31 are hydrophobic
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240 acids, including Val, Leu, Ile, Met, Pro, Phe, and Ala

243 <220> FEATURE:

244 <221> NAME/KEY: MISC_FEATURE

245 <222> LOCATION: (34)..(34)

246 <223> OTHER INFORMATION: Where the amino acid located at 34 is a hydrophobic amino
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247 including Val, Leu, Ile, Met, Pro, Phe, and Ala

250 <220> FEATURE:

251 <221> NAME/KEY: MISC_FEATURE

252 <222> LOCATION: (36)..(36)

253 <223> OTHER INFORMATION: Where the amino acid located at 36 is an uncharged polar
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254 id, including Thr, Ser, Tyr, Gly, Gln, and Asn

257 <220> FEATURE:

258 <221> NAME/KEY: MISC_FEATURE

259 <222> LOCATION: (38)..(39)

260 <223> OTHER INFORMATION: Where the amino acids located at 38 and 39 are hydrophobic
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261 acids, including Val, Leu, Ile, Met, Pro, Phe, and Ala

264 <400> SEQUENCE: 4

W--> 266 Xaa Xaa Xaa Cys Glu Xaa Cys Glu Xaa Xaa Xaa Lys Glu Xaa Xaa Lys

267 1 5 10 15

270 Xaa Xaa Asp Asn Asn Lys Xaa Glu Lys Glu Xaa Xaa Asp Xaa Xaa Asp

271 20 25 30

274 Lys Xaa Cys Xaa Lys Xaa Xaa

275 35

278 <210> SEQ ID NO: 5

279 <211> LENGTH: 38

280 <212> TYPE: PRT

281 <213> ORGANISM: Homo sapiens
283 <220> FEATURE:
284 <221> NAME/KEY: MISC_FEATURE

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PATENT APPLICATION: US/09/780,438C

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Input Set : A:\EP.txt
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285 <222> LOCATION: (1)..(1)
286 <223> OTHER INFORMATION: Where the amino acid located at 1 is a hydrophobic amino acid, in
287 cluding Val, Leu, Ile, Met, Pro, Phe, and Ala
290 <220> FEATURE:
291 <221> NAME/KEY: MISC_FEATURE
292 <222> LOCATION: (2)..(2)
293 <223> OTHER INFORMATION: Where the amino acid located at 2 is an uncharged polar amino acid
294 d, including Thr, Ser, Tyr, Gly, Gln, and Asn
297 <220> FEATURE:
298 <221> NAME/KEY: MISC_FEATURE
299 <222> LOCATION: (5)..(5)
300 <223> OTHER INFORMATION: Where the amino acid located at 5 is a hydrophobic amino acid, in
301 cluding Val, Leu, Ile, Met, Pro, Phe, and Ala
304 <220> FEATURE:
305 <221> NAME/KEY: MISC_FEATURE
306 <222> LOCATION: (8)..(10)
307 <223> OTHER INFORMATION: Where the amino acids located at 8-10 are hydrophobic amino acids
308 , including Val, Leu, Ile, Met, Pro, Phe, and Ala
311 <220> FEATURE:
312 <221> NAME/KEY: MISC_FEATURE
313 <222> LOCATION: (13)..(13)
314 <223> OTHER INFORMATION: Where the amino acid located at 13 is a hydrophobic amino acid, in
315 cluding Val, Leu, Ile, Met, Pro, Phe, and Ala
318 <220> FEATURE:
319 <221> NAME/KEY: MISC_FEATURE
320 <222> LOCATION: (14)..(14)
321 <223> OTHER INFORMATION: Where the amino acid located at 14 is an uncharged polar amino acid
322 d, including Thr, Ser, Tyr, Gly, Gln, and Asn
325 <220> FEATURE:
326 <221> NAME/KEY: MISC_FEATURE
327 <222> LOCATION: (16)..(17)
328 <223> OTHER INFORMATION: Where the amino acids located at 16 and 17 are hydrophobic amino acids
329 , including Val, Leu, Ile, Met, Pro, Phe, and Ala
332 <220> FEATURE:
333 <221> NAME/KEY: MISC_FEATURE
334 <222> LOCATION: (22)..(22)
335 <223> OTHER INFORMATION: Where the amino acid located at 22 is an uncharged polar amino acid
336 d, including Thr, Ser, Tyr, Gly, Gln, and Asn
339 <220> FEATURE:
340 <221> NAME/KEY: MISC_FEATURE
341 <222> LOCATION: (26)..(27)
342 <223> OTHER INFORMATION: Where the amino acids located at 26 and 27 are hydrophobic amino acids
343 , including Val, Leu, Ile, Met, Pro, Phe, and Ala
346 <220> FEATURE:

347 <221> NAME/KEY: MISC_FEATURE
348 <222> LOCATION: (29)..(30)
349 <223> OTHER INFORMATION: Where the amino acids located at 29 and 30 are hydrophobic
amino
350 acids, including Val, Leu, Ile, Met, Pro, Phe, and Ala
353 <220> FEATURE:

Input Set : A:\EP.txt
Output Set: N:\CRF4\05082003\I780438C.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#: 3; Xaa Pos. 1, 2, 5, 8, 9, 10, 13, 14, 16, 17, 22, 26, 27, 29, 30, 33, 35, 37, 38
Seq#: 4; Xaa Pos. 1, 2, 3, 6, 9, 10, 11, 14, 15, 17, 18, 23, 27, 28, 30, 31, 34, 36, 38, 39
Seq#: 5; Xaa Pos. 1, 2, 5, 8, 9, 10, 13, 14, 16, 17, 22, 26, 27, 29, 30, 33, 35, 37, 38
Seq#: 6; Xaa Pos. 1, 2, 5, 8, 9, 10, 13, 14, 16, 17, 22, 26, 27, 29, 30, 33, 35, 37, 38

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/780,438C

DATE: 05/08/2003
TIME: 14:42:58

Input Set : A:\EP.txt
Output Set: N:\CRF4\05082003\I780438C.raw

L:156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
M:341 Repeated in SeqNo=3
L:266 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
M:341 Repeated in SeqNo=4
L:376 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
M:341 Repeated in SeqNo=5
L:486 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
M:341 Repeated in SeqNo=6